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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,601	06/20/2003	Eric Anderson	100202201-1	5490

22879 7590 07/31/2006

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EXAMINER	
SAEED, USMAAN	
ART UNIT	**PAPER NUMBER**
2166	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,601	ANDERSON, ERIC	
	Examiner	Art Unit	
	Usmaan Saeed	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-22,24-27 and 29-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,17-22,24-27 and 29-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt of Applicant's Amendment, filed on 4/07/2006 is acknowledged.

Claims 1, 5-6, 8, 10-11, 14-15, 17, 19-20, and 22 have been amended. Claims 16, 23, and 28 have been cancelled. New claims 29-34 have been added.

Specification

2. The amended specification was received on 4/07/2006 and is acceptable.

Drawings

3. The amended specification received on 4/07/2006 overcomes the drawing rejections and is acceptable.

Claim Rejections - 35 USC § 101

4. The amended claims received on 4/07/2006 overcome the 101 rejections and are acceptable.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15, 17-22, 24-27, and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Borowsky et al.** (**Borowsky** hereinafter) (U.S. Patent No. 6,381,619) in view of **Brian M. Kennedy**. (**Kennedy** hereinafter) (U.S. Patent No. 5,845,258).

With respect to claim 1, **Borowsky** teaches **a method for performing adaptive migration and execution, the method comprising:**

"obtaining a plan" as the migration plan generator develops a plan that leads to the lowest contention for the system (**Borowsky** Col 2, Lines 35-36). The reference teaches that the plan is being developed for migration. **"generated by a planner executable in a computer"** as the present invention provides a computer data storage system with a migration plan generator which includes a "Simple" migration planner which provides for making terminal moves until no further terminal moves are possible based on random, preset, or functional ordering (**Borowsky** Col 2, Lines 15-20).

"adapting the plan to satisfy migration constraints" as the migration plan generator 100, the initial configuration data 110, the goal configuration data 112, and the set of constraints 114 are provided to a migration planner 116. The migration

planner 116 either fails to develop a migration plan and exits to "fail" block 118 or produces a viable migration plan 120 (**Borowsky** Col 5, Lines 6-11). The plan being produced by the migration plan generator is only developed/adopted when the set of constraints provided to the planner are satisfied.

"executing at least one move of a data chunk in the plan" as the data stores are moved, or migrated, among the storage devices under the direction of a control 28 (**Borowsky** Col 3, Lines 49-51).

Borowsky teaches the elements of claim 1 as noted above but does not explicitly teach the steps of **"feeding back information relating to the to the planner; and modifying the plan by the planner in response to the information."**

However, **Kennedy** discloses **"feeding back information relating to the to the planner and modifying the plan by the planner in response to the information"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

With respect to claim 2, **Borowsky** further teaches **"the method of claim 1, wherein the steps in the method are repeated until no moves are pending"** as the present invention provides a computer data storage system with a migration plan generator which includes a "Simple" migration planner which provides for making terminal moves until no further terminal moves are possible based on random, preset, or functional ordering (**Borowsky** Col 2, Lines 15-20).

With respect to claim 3, **Borowsky** further teaches **"the method of claim 2, further comprising: waiting for all in-progress executions of moves to complete after no moves are pending"** as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The reference teaches that the program processes/executes all the possible moves and it has to wait for all the executions in order to check if the configurations have been met.

With respect to claim 4, **Borowsky** further teaches **"the method of claim 1, further comprising: waiting for a move to complete if the adaptation of the plan indicates no moves meet the migration constraints"** as establishing that no other moves are possible after the store E move (**Borowsky** Col 6, Lines 47-48). The set of constraints 114 prevents certain moves (**Borowsky** Col 4, Line 54). This means that

after the completion of the store E move, no other moves are possible and constraints play a part in preventing certain moves.

With respect to claim 5, **Borowsky** further teaches **"the method of claim 1, further comprising:**

"estimating load value information" as the load placed by the move on the system should be minimized (in terms of data stores moved, time taken (parallel or sequential), bandwidth used, or similar metric) (**Borowsky** Col 6, Lines 24-27). **"using the load value information"** as the load placed by the move on the system should be minimized (in terms of data stores moved, time taken (parallel or sequential), bandwidth used, or similar metric) (**Borowsky** Col 6, Lines 24-27). **"assist in modifying the plan"** as an alternative migration plan would have been to move the store B from device 1 to the device 3 and move the store D from the device 2 to the device 1 (**Borowsky** Col 6, Lines 58-61). Figure 6 also have all the other different/modified/new plans that can be selected for use of migration. It is using the load value to find a modified/different/new plan since the constraints to select a plan contain a capacity constraint which examiner interprets as a load constraint.

With respect to claim 6, **Borowsky** further teaches **the method of claim 1, wherein adapting the plan comprises:**

selecting at least one step from the following

"pruning at least one move that violates a migration constraint" as the set of constraints 114 contains the capacities of the data storage devices, the capacities of the data stores, the bandwidth, movement rate, and other limitations on the moves (**Borowsky** Col 4, Lines 51-53). Therefore these set of constraints are being used in the pruning of the moves.

"selecting a largest set of moves that do not violates a migration constraint; and skipping a move that violates a migration constraint" as if a terminal move is possible, the program proceeds to the "constraints met?" decision block 138. The "constraints met?" decision block 138 receives the set of constraints 114 to determine whether or not the constraints have been met. If they have not been met, the program returns to the "build plan" block 132. If the constraints have been met, the program proceeds to the "select terminal move" block 140 (**Borowsky** Col 5, Lines 22-29). If the moves do not violate the migration constraints they are added to the plan and if they violate the constraints they are not added to that plan.

With respect to claim 7, **Borowsky** further teaches **"the method of claim 1, further comprising: treating a data chunk as existing in an old location and new location while a move is in progress"** as the initial configuration system 22, the initial configuration has device 1 with store A and store B assigned to it, device 2 with store C and store D assigned to it, and device 3 with store E assigned to it.
In the goal configuration system 26, the goal configuration has device 1 with store A, store D, and store E assigned to it, device 2 with store C and store B assigned to it, and

device 3 with no data block assigned to it (**Borowsky** Col 3, Lines 40-48). Therefore when a move is in progress it treats the initial and goal configuration, both having the data chunk E since they use memory in old and new locations.

With respect to claim 8, **Borowsky** further teaches **"the method of claim 1, further comprising: pruning moves that violate an access rule when a move is in progress, wherein the pruned moves are not selected for inclusion in the plan"** as there are different blocks of data in the storage system. The access patterns to these blocks of data changes over time. Further, devices may fail or be added or subtracted. Thus, the ultimate goal is a data storage system which is not only able to automatically configure itself, but to reconfigure itself `on-the-fly`; i.e. move stored data around based on changing access patterns (**Borowsky** Col 1 Lines 65-67, Col 2 Lines 1-4). The reference is pruning the moves that are violating the access rules since they are changed and then the reference is reconfiguring these moves based on the changed access patterns/rules. The pruned moved are not included unless they are changed and reconfigured.

With respect to claim 9, **Borowsky** further teaches **"the method of claim 7, wherein the step of treating the data chunk comprises: considering the data chunk as decreasing a per-node free space information at both the old location and the new location when a move is in progress"** as the present invention further provides a computer data storage system with a migration plan generator which

includes a "Greedy" migration planner which uses a "contention" metric. The "contention" of a data storage device is defined as the total size of the data stores that need to move onto such data storage device, divided by the amount of free space on such data storage device. The contention of the entire system is the sum of the contention over all the data storage devices. The migration plan generator develops a plan that leads to the lowest contention for the system (**Borowsky** Col 2, Lines 27-36). The free space is decreasing since plan generator s trying for develop a plan, which leads to lowest contention in order to use the least space required.

With respect to claim 10, **Borowsky** further teaches **a method for performing adaptive migration and execution, the method comprising:**

"obtaining a plan" as the migration plan generator develops a plan that leads to the lowest contention for the system (**Borowsky** Col 2, Lines 35-36). The reference teaches that the plan is being developed for migration. **"created by a planner executable in a computer"** as the present invention provides a computer data storage system with a migration plan generator which includes a "Simple" migration planner which provides for making terminal moves until no further terminal moves are possible based on random, preset, or functional ordering (**Borowsky** Col 2, Lines 15-20).

"determining all valid moves in the plan" as if there is a data storage device that has terminal moves going into it but none going out, then all these terminal moves will be valid, since the data storage device can clearly accommodate all the data stores

in the goal configuration (**Borowsky** Col 8, Lines 17-21). The reference is determining the valid moves that the data storage device can handle.

"executing a valid move" as the data stores are moved, or migrated, among the storage devices under the direction of a control 28 (**Borowsky** Col 3, Lines 49-51). **"if at least one additional move is required"** as if there is a data storage device that has terminal moves going into it but none going out, then all these terminal moves will be valid, since the data storage device can clearly accommodate all the data stores in the goal configuration (**Borowsky** Col 8, Lines 17-21). The reference is determining the valid moves that the data storage device can handle and it would have additional moves after starting the first move.

Borowsky teaches the elements of claim 10 as noted above but does not explicitly teach the steps of **"feeding back information relating to the to the planner; and modifying the plan by the planner in response to the information."**

However, **Kennedy** discloses **"feeding back information relating to the to the planner and modifying the plan by the planner based on the information"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven

planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

With respect to claim 11, **Borowsky** further teaches **"the method of claim 10, further comprising: determining if an executor is available, wherein executing the valid more is performed by the available executor"** as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The reference teaches that the program processes/executes all the possible moves and the executor has to be available to execute the moves.

Claim 12 is same as claim 2 and is rejected for the same reasons as applied hereinabove.

Claim 13 is same as claim 3 and is rejected for the same reasons as applied hereinabove.

With respect to claim 14, **Borowsky** further teaches **an article of manufacture, comprising: a machine-readable medium having stored thereon instructions to:**

"obtain a plan" as the migration plan generator develops a plan that leads to the lowest contention for the system (**Borowsky** Col 2, Lines 35-36). The reference teaches that the plan is being developed for migration.

"adapt the plan to satisfy migration constraints" as the migration plan generator 100, the initial configuration data 110, the goal configuration data 112, and the set of constraints 114 are provided to a migration planner 116. The migration planner 116 either fails to develop a migration plan and exits to "fail" block 118 or produces a viable migration plan 120 (**Borowsky** Col 5, Lines 6-11). The plan being produced by the migration plan generator is only developed/adopted when the set of constraints provided to the planner are satisfied.

"execute at least one move of a data chunk in the plan and executing another move" as the data stores are moved, or migrated, among the storage devices under the direction of a control 28 (**Borowsky** Col 4, Lines 49-51).

"configuration information regarding in-progress execution of the at least one move" as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64).

Borowsky teaches the elements of claim 14 as noted above but does not explicitly teach the steps of **"modifying the plan based on feedback information"**

However, **Kennedy** discloses, **"modifying the plan based on feedback information"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

With respect to claim 15, **Borowsky** further teaches **an apparatus for adaptive migration, the apparatus comprising:**

"a planner configured to generate a migration plan based upon configuration information" as the present invention provides a computer data storage system with a migration plan generator which includes a "Simple" migration planner which provides for making terminal moves until no further terminal moves are possible based on random, preset, or functional ordering (**Borowsky** Col 2, Lines 15-20). Fig 1 provides an overview of the invention and its migration from an initial configuration to a goal configuration (**Borowsky** Col 2, Lines 65-67). There is migration planner, which provides migration plan for making the moves. These moves are based on configuration information since initial configuration is being changed to final configuration.

"an adapter configured to receive the plan from the planner, to receive migration constraints information, target configuration information and current configuration information, and to transmit configuration information to the planner" as in the migration planner 116B of FIG. 6, the program begins at "start" block 150 and moves to select a plan in "select plan" block 152. The "select plan" block receives the initial configuration data 110, the goal configuration data 112, and the set of constraints 114 (**Borowsky** Col 8, Lines 36-40). The planner is receiving all the information about the initial/current configuration, goal/target configurations and the set of constraints.

"at least one executor configured to execute a move in the plan" as the plan might have to be executed in one hour. With a very slow data storage device, like a tape drive, and a large data store that needs to be moved, it might not be feasible to move the data store onto and off the tape drive because that may take more time than the hour set for completing the plan (**Borowsky** Col 5 Lines 1-5). Therefore the reference includes an executor, which executes a plan for moving data. **"wherein the configuration information relates to execution of the moves"** as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64).

Claim 16 (Cancelled).

Claim 17, 18, and 19 are essentially the same as claim 5 except they set forth the claimed invention as an apparatus and are rejected for the same reasons as applied hereinabove.

With respect to claim 20, **Borowsky** further teaches **"the apparatus of claim 15, wherein the adapter iteratively obtains plans from the planner until no moves are pending"** as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The reference keeps on selecting a different plan until the configuration/(moves) have been met.
The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68).

Claim 21 is essentially the same as claim 3 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 22 is essentially the same as claim 4 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 23 (Cancelled).

Claim 24 is essentially the same as claim 6 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 25 is essentially the same as claim 7 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 26 is essentially the same as claim 8 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 27 is essentially the same as claim 9 except it sets forth the claimed invention as an apparatus and is rejected for the same reasons as applied hereinabove.

Claim 28 (Cancelled).

With respect to claim 29, **Borowsky** teaches **the method of claim 1, further comprising:**

"executing at least a second move of a data chunk" as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal

configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68).

"the execution of the at least second move to the planner" as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68).

"the information relating to the execution of the at least second move" as after a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts

from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68).

Borowsky teaches the elements of claim 29 as noted above but does not explicitly teach **"the modified plan, feeding back information, and further modifying the plan."**

However, **Kennedy** discloses **"the modified plan, feeding back information, and further modifying the plan"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

With respect to claim 30, **Borowsky** teaches **the method of claim 1, wherein execution of the at least one move is performed by an executor, the method further comprising:**

"waiting for the executor to complete the at least one move

determining whether another move is to be executed" as the data stores are moved, or migrated, among the storage devices under the direction of a control 28 (**Borowsky** Col 3, Lines 49-51). After a program has processed the possible moves,

the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68). These lines teach that all the possible/determined move are being performed.

Borowsky teaches the elements of claim 30 as noted above but does not explicitly teach **"the modified plan"**

However, **Kennedy** discloses **"the modified plan"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

Claim 32 is essentially the same as claim 30 except it sets forth the claimed invention as an article of manufacture and is rejected for the same reasons as applied hereinabove.

With respect to claim 31, **Borowsky** teaches **the method of claim 1, further comprising:**

"tracking the information relating to the execution of the at least one move by an adapter that also adapts the plan to satisfy migration constraints" as the data stores are moved, or migrated, among the storage devices under the direction of a control 28 (**Borowsky** Col 3, Lines 49-51). After a program has processed the possible moves, the then current configuration is compared with the goal configuration in the "goal configuration met?" decision block 172. If the goal configuration has not been met, the program proceeds back to the "select plan" block 152 and, if it has it, exits as the migration plan 120 (**Borowsky** Col 5, Lines 59-64). The present invention further provides a computer data storage system with a migration plan generator which includes a "Meta" migration planner which shifts from one planner to another based on the planner's performance (**Borowsky** Col 2, Lines 55-68).
The migration planner 116B of FIG. 6, the program begins at "start" block 150 and moves to select a plan in "select plan" block 152. The "select plan" block receives the initial configuration data 110, the goal configuration data 112, and the set of constraints 114 (**Borowsky** Col 8, Lines 36-40).

Borowsky teaches the elements of claim 31 as noted above but does not explicitly teach, **"feeding back the information."**

However, **Kennedy** discloses, **"feeding back the information"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

With respect to claim 33, **Borowsky** teaches **the article of claim 14, wherein the machine-readable medium further contains instructions to:**

"estimate load information associated with the plan" as the load placed by the move on the system should be minimized (in terms of data stores moved, time taken (parallel or sequential), bandwidth used, or similar metric) (**Borowsky** Col 6, Lines 24-27).

"wherein modifying the plan is further based on the estimated load information" as the load placed by the move on the system should be minimized (in terms of data stores moved, time taken (parallel or sequential), bandwidth used, or similar metric) (**Borowsky** Col 6, Lines 24-27). An alternative migration plan would

have been to move the store B from device 1 to the device 3 and move the store D from the device 2 to the device 1 (**Borowsky** Col 6, Lines 58-61). Figure 6 also have all the other different/modified/new plans that can be selected for use of migration. It is using the load value to find a modified/different/new plan since the constraints to select a plan contain a capacity constraint which examiner interprets as a load constraint.

Borowsky teaches the elements of claim 33 as noted above but does not explicitly teach, **"modifying the plan."**

However, **Kennedy** discloses, **"modifying the plan"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

Claim 34 is essentially the same as claims 31 and 20 and is rejected for the same reason as applied hereinabove.

Response to Arguments

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 1 applicant argues that **Borowsky** does not teaches **"feeding back information relating to the to the planner; and modifying the plan by the planner in response to the information."**

In this argument applicant relies on the amended claim and not the original one.

In response to the preceding argument, Examiner respectfully submits that **Kennedy** teaches **"feeding back information relating to the to the planner and modifying the plan by the planner in response to the information"** as (figure 1 and figure 2). In these figures problems are being identified with the initial plan and the plan is being modified. If these are more problems with the adjusted plan it is being fed back to resolve additional problems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kennedy's** teaching would have allowed **Borowsky** to provide a strategy driven planning system that substantially reduce or eliminate problems and to automate resolution of infeasibilities and progress towards an optimal plan.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usmaan Saeed whose telephone number is (571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Usmaan Saeed
Patent Examiner
Art Unit: 2166

Leslie Wong
Primary Examiner

US
July 22, 2006

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER